

STRESS LEVEL ASSESSMENT AMONG DENTISTS IN ADJARA DURING COVID-19

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Abstract:

The pandemic caused by COVID-19 had a great impact on doctors who were overwhelmed by the over- flow of patients and the work load. According to M.Zhang's research, like other professionals dentists also were at high risk for infection. There is not enough research to prevent psychological risk factors during a pandemic, which explains the purpose of our survey. Impact of the COVID-19 pandemic on the psycho-emotional state of the dentists in the Adjara Region, Georgia. The survey was conducted in 2021 among the dentists in Adjara Region, Georgia. 273 dentists aged 20 to 65 participated in the research. PSS- 10 was used to assess the level of perceived stress,work overload, and resistance to stress and PDI-to evaluate the level of distress associated with the pandemic. The COVID-19 pandemic has taken its toll most heavily on the adult respondents in the over- 45age group. The survey has identified stress-provoking factors too.

Keywords: Dentists in the Adjara Region; Psycho-emotional; Georgia; Pandemic; Stress-provoking factors.

INTRODUCTION:

The pandemic caused by COVID-19 had a great impact on doctors who were overwhelmed by the overflow of patients and the workload, and also often there was no way for social distancing. Rapid changes in protocols and care for infected colleagues also laid stress on physicians (Walton M, Murray E, Christian MD,2020). During the pandemic in China, a high percentage of stress and anxiety was revealed among healthcare workers. Symptoms manifesting stress equaled 50% and anxiety - 44, 7%. (Lai J, Ma S, Wang Y, et al. 2020). According to M. Zhang's research, in the State of Washington in 2020, 15 professions with a high risk of infection were identified. Among them were dentists (Zhang, 'M. 2021). During the pandemic, 64% of dentists provided only primary emergency care to acute patients. 58.5% of dentists received patients without any assistance (Faccini M, Ferruzzi F, Mori AA, Santin GC, Oliveira RCG, et al. 2020). COVID-19-related anxiety and perceived stress due to insecurity was reported by a large number of dentists from various countries (Zhang WR, Wang K, Yin L, Zhao WF, et al. 2020). In 2021, according to Sarapultseva's research, distress was revealed in 21.9% of dentists, which was lower than the Indian data and higher than the Israeli data (Sarapultseva M. Sarapultsev A. 2021). There is still not enough research to prevent psychological risk factors during a pandemic. In this regard, no research has been conducted in our country yet, which explains the purpose of our study.

Impact of the COVID-19 pandemic on the psycho-emotional state of the dentists in the Adjara region, Georgia

MATERIALS AND METHODS

The survey was conducted in 2021 among the dentists in Adjara Region, Georgia. 273 dentists aged 20 to 65 participated in the research (38.92+11.28). Of these, 198 were women (73.53%) and 75 were men (27.47%). Respondents were divided into three groups by age. 130 participants were from 20 to 35 years old - young

group, 73 people in the middle age group were from 36 to 45 years old, and 70 respondents were over 45. Dentists of all profiles participated in the survey.

To determine the level of the effect of stress and work overload and to identify the resistance of dental healthcare workers during the COVID-19 pandemic, we used a special ten-point-scale scale -10, which was adapted to the Adjara region.

To determine the level of distress, a questionnaire was filled out “COVID-19 Peritraumatic Distress Index (CPDI)” which is widely used to assess psychological stress during the COVID-19 pandemic. The questionnaire has four scales: psychological overload, physiological reaction, social condition, and peritraumatic distress. At the research stage, we used the questionnaire to reveal precipitating risk factors that caused destructive changes. The difference in data in all three study groups was assessed using the Kruskal–Wallis test criterion, and the relationship was determined according to Spearman's Rank Correlation (Table 1, Table 2).

Results

The overall level of stress perceived was very high in all research groups. The data worsened with age. 6.9% of the total number of respondents belonged to the young research group, and 95.7% of dentists belonged to the elderly research group.

Conclusion

The COVID-19 pandemic has taken its toll most heavily on the adult respondents in the over-45 age group who were taking part in the survey. The survey has identified stress-provoking factors as a result of the pandemic, which should be considered for stress prevention for dentists to avoid psychological problems during different pandemics in the future.

APPLICATION FORM N1

to identify stress factors that cause destructive changes

<p>Dear dentist!</p> <p>You are invited to participate in a survey that is anonymous and does not require identification. The aim of our survey is to determine the level of stress among dentists during the COVID-19 pandemic and to identify risk factors for further prevention. Analysis of the results will be presented at scientific conferences.</p> <p>Your involvement is important to us!</p> <p>Thank you very much for participating!</p>	
<p>Part 1 About your Professional Field</p>	
Gender	<p>Female -</p> <p>Male -</p>
Age	
What type of institution do you work at?	<p>Polyclinic -</p> <p>Private clinic -</p> <p>other -</p>
When did you graduate from the university?	
Specify your area of specialization	<p>General Dental Practitioner -</p> <p>Dental Surgeon -</p> <p>Dental Prosthodontist -</p> <p>Orthodontist -</p> <p>Pediatric Dentist -</p> <p>Maxillofacial Surgeon -</p>
Specify your seniority experience	
<p>Part 2 About Your Activities During the Pandemic</p>	
Did you work with patients during the pandemic?	<p>I worked regularly -</p> <p>I rarely worked -</p> <p>I worked only in the first aid emergency care -</p> <p>I didn't work because of the pandemic -</p>
Did the pandemic affect you?	<p>No -</p> <p>Slightly -</p> <p>Mildly -</p> <p>The pandemic affected me strongly -</p> <p>The pandemic affected me very strongly -</p> <p>I do not know -</p>
Has the flow of patients decreased?	<p>Yes, it has decreased -</p> <p>No, it has increased -</p> <p>It has not changed -</p>

	I do not know -
Have you undergone the training for COVID-19 infection prevention during the pandemic?	No - Yes - I do not remember -
What was the goal of the training you have undergone?	I have not gone through the training - individual means of protection - utilization - special equipment for a dental office - disinfection of a dental office between patients - dental office cleaning after a patient leaves - infection control in the workplace - patient screening - other -
How well prepared are you to receive an infected patient?	I'm ready - I'm not ready - I'm ready a little - I'm ready moderately - I'm very well prepared - I don't know -
Which personal protective equipment are you equipped with at your workplace?	disposable surgical face mask - N95 mask - multi-use face mask - disposable surgical cap - medical cap made of fabric - disposable medical gown - reusable medical gown made of fabric - medical waterproof gown - medical safety goggles - other -
Which mask do you use when working close to patients' mouths?	Disposable surgical mask - N95 mask - multi-use face mask - N95 mask + disposable surgical mask - Two disposable surgical masks - Disposable surgical mask + N95 mask - Disposable surgical mask+ reusable cloth mask - Other -
Part 3 Structure of the Workplace	
Did your dental workplace meet the requirements to admit an infected patient?	No - Yes - waiting room only - dental treatment room only - yes, fully - I do not know -
Did you have additional expenses due to the pandemic?	No - Yes, but patient service prices have not increased - Yes, but patient service prices have also increased - I do not know -
How do you get information about the pandemic?	I don't have access to it - from the website of dental associations - From online resources literature - from blogs - from social sites - from my colleagues - from other professionals in the field of health care- I do not know - Other -
Do you test the patients before admission?	take a history only - fill out a special questionnaire for COVID 19 -

	take temperature - we ask the patient to take their temperature before the visit - before admitting patients, we ask them to use antimicrobial mouth rinse - other-
Are you afraid of getting infected?	Yes - No - Yes, very much - yes, a little - I do not know -
Do you admit infected patients?	Yes - no - I do not know -
Do you get tested regularly?	Yes - Yes, I had a positive result - Yes, I had a negative result -
Do you agree to carry out preventive measures in your region?	Yes - No - I don't care - I do not know -
Thank you for participating!	

TABLE N1. Prevalence of different perceived stress levels among dentists of various age groups according to the pss-10

Age	Scale	Median data in points	Below normal %	Above normal %	Kruskal-Wallis Index H-TEST
Aged 20-35 N=130	PSS	18,53+4,04	93,08(n=121)	6,92(n=9)	P<0,001
	O	11,15+3,21	78,46(n=102)	21,54(n=28)	
	CS	7,38+2,67	88,46(n=115)	11,54(n=15)	
Aged 36-45 N=73	PSS	24,78+4,21	34,25(n=25)	65,75(n=48)	P<0,001
	O	14,95+4,21	34,25(n=25)	65,75(n=48)	
	CS	9,69+3,00	72,6 (n=53)	27,4(n=20)	
Aged 45 and above N=70	PSS	29,51+3,73	4,29(n=3)	95,71(n=67)	P<0,001
	O	18,03+5,04	14,29(n=10)	85,71(n=60)	
	CS	11,50+3,16	52,86(n=37)	47,14(n=33)	

PSS - perceived stress scale

O – overstrain

CS - counteraction to stress

The table shows statistically significant differences between different age groups according to the kruskal-wallis test

TABLE N2. Prevalence of various stress levels in dentists based on age according to the PDI

Age	Scale	Median data in points	Normal stress (autostress) %	Moderate distress %	Severe distress %	Kruskal-Wallis Index H-TEST
Aged 20-35 N=130	PDI	8,12+2,92	100 (n=130)	0	0	P<0,001
	PO	3,86+1,94	100 (n=130)	0	0	
	FR	0,55+0,80	100 (n=130)	0	0	
	P	3,71+2,24	100 (n=130)	0	0	
Aged 36-45 N=73	PDI	16,49+2,4	100(n=73)	0	0	P<0,001
	PO	7,49+2,72	91,78(n=67)	8,22 (n=6)	0	
	FR	1,60+1,78	98,63(n=72)	1,37(n=1)	0	
	P	7,40+2,45	69,86(n=51)	30,14(n=22)	0	
Aged above 45 N=70	PDI	34,01+12,60	42,86(n=30)	48,57(n=34)	8,57(n=6)	P<0,001
	PO	17,47+6,35	15,71(n=11)	58,57(n=41)	25,71(n=18)	
	FR	5,60+4,41	64,29(n=45)	28,57(n=20)	7,14(n=5)	
	P	10,94+5,69	34,29(n=24)	54,29(n=38)	11,43(n=8)	

PDI- peritraumatic distress index
PO - psychological overstrain
FR - psychological reactions
P- prosociality

REFERENCES

1. Faccini M, Ferruzzi F, Mori AA, Santin GC, Oliveira RCG, et al. Dental Care During the COVID-19 Outbreak: A Web-Based Survey. *European journal of dentistry*. 2020; 14(01): 14-19. <https://doi.org/10.1055/s-0040-1715990>;
2. Lai J, Ma S, Wang Y, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019 *JAMA network open*. 2020; 3(3): 203-976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>;
3. Sarapultseva M. Sarapultsev A. Psychological Distress and Post-Traumatic Symptomatology Among Dental Healthcare Workers in Russia: Results of a Pilot Study. *International Journal of Environmental Research and Public Health* 2021; 18(2): 708. <https://doi.org/10.3390/ijerph18020708>;
4. Walton M, Murray E, Christian MD. Mental health care for medical staff and affiliated healthcare workers during the COVID-19 pandemic. *European Heart Journal - Acute Cardiovascular Care (EHJ-ACVC)* 2020; 9(3): 241-247. <https://doi.org/10.1177/2048872620922795>;
5. Zhang, M. Estimation of differential occupational risk of COVID-19 by comparing risk factors with case data by occupational group. *American Journal of Industrial Medicine*. 2021; 64(1): 39-47. <https://doi.org/10.1002/ajim.23199>;
6. Zhang WR, Wang K, Yin L, Zhao WF, et al. Mental Health and Psychosocial Problems of Medical Health Workers during the COVID-19 Epidemic in China. *Psychotherapy and Psychosomatics* 2020; 89(4): 242-250. <https://doi.org/10.1159/000507639>.